

What is claimed is:

1. A solid electrolyte having the formula of  $\text{Li}_x\text{Si}_y\text{M}_z\text{O}_v\text{N}_w$  where  $0.3 \leq x \leq 0.46$ ,  $0.05 \leq y \leq 0.15$ ,  $0.016 \leq z < 0.05$ ,  $0.42 \leq v < 0.5$ ,  $0 \leq w \leq 0.029$ , and M is at least one selected from the group consisting of Nb, Ta, P, and W.

5

2. A method of manufacturing the solid electrolyte of claim 1 using  $\text{Li}_2\text{O}$ ,  $\text{SiO}_2$ , and at least one selected from the group consisting of  $\text{Nb}_2\text{O}_5$ ,  $\text{Ta}_2\text{O}_5$ ,  $\text{WO}_3$ , and  $\text{Li}_3\text{PO}_4$  as source materials by one of simultaneous sputtering, electron beam deposition, ion beam deposition, and chemical vapor deposition.

10

3. The method of claim 2, wherein a reactant gas containing nitrogen is used.

4. A lithium battery employing the solid electrolyte of claim 1.

15

5. A thin-film battery employing the solid electrolyte of claim 1.